CLAIM AMENDMENTS:

1. (currently amended) A reflector for X-ray radiation, the reflector comprising:

means defining a first non-circular arc shape along a first cross section, said first cross section extending in an XZ plane containing an X direction; and
means defining a second non-circular arc shape along a second cross section, said second cross section extending in a YZ plane perpendicular to said X direction, wherein said first and said second arc shapes focus or render parallel in two-dimensions through one single reflection of the X-ray radiation.

2. (previously presented) The reflector of claim 1, wherein said second arc shape of the reflector along said second cross section defines focusing properties of the reflector.

3. (previously presented) The reflector of claim 2, wherein said focusing properties are within said YZ plane.

4. (cancelled)

5. (previously presented) The reflector of claim 1, wherein said first arc shape is parabolic, hyperbolic or elliptic along said first cross-section.

6. (previously presented) The reflector of claim 1, further comprising a periodically repeating sequence of layers of materials A, B, ... with different refractive indices, wherein a sum $d=d_A+d_B+...$ of thicknesses

d_A, d_B... of successive layers of said materials A, B,... changes continuously along said X-direction.

7. (currently amended) The reflector of claim 6, wherein said sum ~~changes in~~ changes monotonically.

8. (previously presented) The reflector of claim 7, wherein said sum changes along said second cross-section.

9. (previously presented) The reflector of claim 8, where said sum changes by more than 2%.

10. (previously presented) The reflector of claim 8, wherein a curvature of the reflector along said second cross-section compensates for a change in said sum d along said second cross-section by differing from a comparable reflector with a constant sum d and circular curvature along a respective second cross-section thereof for given focusing and reflectivity properties of the reflector.

11. (previously presented) The reflector of claim 1, wherein said second arc shape has an elliptical curvature of different lengths of semi-axes along said second cross-section.

12. (previously presented) The reflector of claim 1, wherein said second arc shape has a parabolic curvature along said second cross section.

13. (previously presented) The reflector of claim 1, wherein the reflector has a reflecting surface width of more than 2mm as measured perpendicular to said x-direction.

14. (previously presented) The reflector of claim 13, wherein said width is at least 4mm.

15. (previously presented) An X-ray analysis device comprising an X-ray source, an X-ray detector, optical shaping and/or delimiting means and the reflector of claim 1.

16. (previously presented) The X-ray analysis device of claim 15, wherein X-ray radiation impinges on the reflector at an angle of less than 5° with respect to said x-direction.

17. (previously presented) The X-ray analysis device of claim 15, wherein a curvature of the reflector along said second cross-section is formed such that a reflectivity of the reflector is maximum for a wavelength of radiation generated by said X-ray source.

18. (previously presented) The X-ray analysis device of claim 15, wherein said reflector focuses X-ray radiation impinging thereon to a focal spot.

19. (previously presented) The X-ray analysis device of claim 18, wherein said focal spot is on a sample or on said X-ray detector.

20. (previously presented) The X-ray analysis device of claim 15, wherein the reflector generates a reflected X-ray beam with a certain ray divergence from X-ray radiation impinging thereon.

21. (previously presented) The X-ray analysis device of claim 20, wherein said certain ray divergence generates parallel rays.